S.No	Instrument Name	QTY
1	Robotic mass comparator	1
2	Stylus based Surface Texture Parameters Measuring Instrument	1
3	Rockwell Hardness Machine	1
4	Gauge Block Comparator	1
5	Non-invasive Blood Pressure Simulator	1
6	Ultrasonic Energy Meter	1
7	Turbo Molecular Pump for orifice flow system	1
8	Computer with hardware controlling operation of 1MN force primary standard	1
9	Normal Table	1
10	Chair	1
11	Guest Chair	2
12	UPS	1
13	High pressure electrical feed through and transducers parts	1
14	Repair of Optical Profiler	1
15	Calibration of Gas Flow Calibration System (The gas flow calibration system	
	consists of 100 sccm, 1 slm, 10 slm and 30 slm molbloc-L, 100 slm, 250 slm and	
	1000 slm Molbloc-S, and Molbox1+ Terminal (Qty: 01 each). All these Molbloc-	1
	L, Molbloc-S and Molbox1+ Terminal to be calibrated)	
16	SS Ball Valve (1/4 inch O.D)	10
17	AMC of Primary Pressure Standard (NPL-H1)	1
18	Hand pressure pump with volume chamber (fine adjustment and release valve,	
10	2bar)	3
19	AMC of laser for Raman Spectrometer	1
20	Silicon oil	20 L
21	C clamp with stand	4
22	Viscosity oil	2.5 L
23	Gas- Argon Cylinders	10
24	Gas-Nitrogen Cylindes	5
25	Gas- Helium cylinders	2
26	Gas- Oxygen cylinders	2
27	Sample holder (for 1 mm cuvette)	2
28	GPIB to USB cables	1
29	Repair of computer and motherboard	2
30	Strain gauges	100
31	Silver paste	2
32	PDMS polymer	1 L
33	Epoxy glue	10
34	Sebacate Oil	5 L
35	White cloth dhoti	210
36	Armet Rod and Margain Rod	1
37	Scandium Oxide (99.99 %)	1
38	Europium oxide (99.99 %)	1
39	Ruby spheres (dia. 1mm)	5
40	Cerium oxide	1
41	Alumina Boat (7ml)	10
42	Alumina Tray (80 ml)	10
43	Alumina Disc (58 mm)	10

S.No	Instrument Name	QTY
44	Mortar pestle (3.5")	2
45	Magnetic retriever	2
46	Magnetic beads	10
47	Micro pipetted tips (50µl)	1000
48	Teflon tape	12
49	Sample container (30ml)	100
50	Weight and base plate for Replica of IPK57	1
50	Bell Jar for Replica of IPK57	4
52	Nitrile Gloves	
52 53	Methannols	5 pkt 5 ltr
54	ISo propyle	5 ltr
55	Whatmann Tissue paper.	2 pkt
56	Hand Air blower for cleaning optics	1
57	Screw driver set	1 Set
58	L-N Key set	1Set
59	Muslin cloths	5 Pkt
60	Standard hydrometers	10
61	Chemicals	15 L
62	Digital camera	1
63	Standard viscometer	5
64	Repairing of – (i) Fixed point furnace (Make Isotech), (ii) Bath (Fluke), (iii)	
	Furnace for comparison calibration (Hearus), (iv) Saturn Blackbody furnace	3
-	(Isotech. 50 oC to 1300 oC)	
65	GPIB to USB connectors	8
66	Detectors for visible region	4
67	Detectors for Infrared region	4
68	Detectors for Ultraviolet region	4
69	Piezo Actuator	1
70	Harwood cones small and big	05 each
71	Volume change regulator	1
72	Gland Nuts (Big and Small)	10
73	Ferrules	10
74	Needle Valve	2
75	Fabrications of high pressure components	1
76	Hard Disc Drive (1 Terra Byte)	2
77	Pipe Fitting 7000 bar	2
78	Tap ¼", ½", ¾", 5/8"	02 each
79	Die ¼", ½", ¾", 5/8"	02 each
80	Electronics IC components	1 Sets
81	SS 304 Pipes [15 mm, 25mm, 50, 100 mm, 150mm]	1 each
	butterfly valve [25mm,100 mm, 150 mm]	1 each
	gate valves [15mm, 50 mm]	1 each
	SS adopters, [25mm, 50 mm]	2 each
	SS Elanges [100 mm 150mm]	2 each
82	AC/DC Resistance standards	1
83	Electronic Weighing balance	1
84	Digital Clamp Meter (1000A)	1
85	Precision Thermo-Hygrometer	4

S.No	Instrument Name	QTY
86	10 kV/ 2.5 kVA, AC Voltage Source with protection and accessories with	1
	isolation transformer	1
87	Potential Transformer Burden Box. Burden range upto 100VA @0.8 PF & upto	
	10 VA @unity PF (i) Rated Input voltage 110 V (ii) Rated Input voltage 110 V/	2
00	sart(3) UPS : 1kVA- Qty 1 No. & 2 kVA- Qty 2Nos.	2
88		3
89	Shoe cover dispenser with shoe covers	2
90	Digital Hand held Multimeter	1
91	Insulation Resistance Tester	1
92	Horizontal single zone tube furnace	1
93	Electronic Analytical Balance with self Calibration Function	1
94	Rework station/system	1
95	Controlled gas (Ar/Ar+H2 gas mixture) delivery system (pressure in the range	
	of 1 x 10-5 to \geq 1030 mbar and equipped with upstream, downstream control	1
	interfaced with pressure/vacuum controller)	
96	Process pump: Oil-free vacuum, 230 V, 50 Hz	1
97	Compressed air compressor: Working pressure: ≥ 0.7 bar, Noise level: ≤ 60	1
00	dbA, Portable Gas regulators: Double stage with gauges, made of stainless steel 316 L, CE	
98	marking, Compatibility to Argon and Oxygen	3
99	Dry scroll pump: Pumping speed \geq 10 m3/h, Flange: DN 25 ISO KF, Outlet	
55	flange: DN 25 ISO KF	1
100	6½ Digit Digital Multimeter	1
101	Existing Mini Flex XRD Tube	1
102	Sputtering targets File	1
103	Stycastt epoxy 2850 & 1266	1
104	Data acquisition card with UB bus connector	1
105	Single Crystal Wafers (SiC, 4H, HPSI + SiC, 4H, n-type)	1+2
105	High purity Gases (Argon, Oxygen, Nitrogen)	1
	Calibration of AC High Voltage Ratio Measuring System (HVRMS) & Capacitors	1
107	independently from leading NMI (Calibration charges, transport/freight,	3
	insurance, etc.)	0
108	Calibration of AC High Voltage capacitance bridge (Automatic Capacitance	1
	Bridge 7010C)	1
109	Chemical Earthing with resistance < 1 Oshm	1
110	Repair of Stabilizer (high capacity)	1
111	Spare Units Compatible with Precision Power Calibration system (PPCS) : 1.	
	Current Amplifier Unit VI130 2.Rack Mounted Digital Storage Oscilloscope 3.	3
	Accessories: Voltage cables and High Current Cables(160A) & connectors	5
440	Collinguing of A. Wich appreciation. Chandrad welter of the sector of a many (CVT 400/420	
112	Calibration of 1. High precision Standard voltage transformer (SVT 480/120-	
	02) 2. High precision Standard current transformer (SCT 100-02) 3. High precision resistance (HPR 10) of Precision Power Calibration system (PPCS)	
	from PTB, Germany (Calibration charges, transport/freight, insurance etc.)4.	4
	Three phase Power Comparator-COM5003 from PTB, Germany (Calibration	
	charges, transport/freight, insurance etc.)	
113	Heater for CCR: Compatible to ARS 2HW Helium compressor with water	1
	cooling, Heater 36 Ω without backing	
114	Software and RS485 kit for EASYHeat RF induction heating power supply:	
	eVIEW software option, complete packagefor EASYHEAT power supplies,	2
	Capabilities including remote display monitoring, data collection, storage, and	1

S.No	Instrument Name	QTY
115	Pyrometer interfacing kit: USB Interface Kitfor sensors CT laser consisting of USB-Interface, PC-cable, software Compact Connect second cable bolting for controller	1
116	Single crystal substrates/wafers: SrTiO3, LaAlO3, KTaO3, LSAT, MgO, Al2O3	250
117	Sputtering targets : Ti, Ge , Au and Bi2Te3	4
118	High purity Gases : Argon, Oxygen, Nitrogen, Purity: ≥ 99.999%	3
119	Customized RF induction heating coils: water cooled & power upto 5 kW, designed to suit quartz tubeof OD 30 mm +/- 5 mm, 45 mm +/- 5 mm, 65 mm +/- 5 mm	3
120	Alumina and Quartz items (Tubes:both sides open, one side open dome, Quartz domes with Wilson seals, compatible to high vacuum, dish, crucibles, boats, plates)	30
121	Adjustable support leg : C-shape piece with adjustable screw and rubber base	6
122	Cartridges/Tonners (Balck-22 Nos & Colour-3 Nos)	25
123	KrF premix gas for Excimer laser system	1
124	FRM sampler	1
125	Infusion Pump Analyzer Calibration Setup	1
126	AC / DC Differential Amplifier suitable for ECG recording	1
127	Digital oscilloscope 200MhZ	1
128	Temperature and humidity sensor	1
129	pH meter	1
130	Conductivity meter	1
131	DATALOGGER (Magnetometer)	1
132	PM 5 Sampler (Portable)	1
133	PM 2.5 Sampler	1
134	PM 1 Sampler	1
135	Computer	1
136	Printer	1
137	NIST Standard for Contact Angle Measurement	1
138	Fabrication of particle generation and cleaning chamber	1
139	FID Kit for upgradation of Agilent GC 6890	1
140	Aluminium cylinders	20
141	Gas cylinders Regulators and fittings	3
142	Balance repairing	2
143	UPS	1
144	Repair of XPS power supply	1
145	Repair of Photoluminescence system	1
146	Repairing of Ion Gauge Controller	1
147	UPS Battery (30 number)	1
148	UPS Batteries (12 V, 120 AH, 30 Nos.)	1
149	Metal & Metal oxide sputtering (Zn, MoO3, W, WO3, Ga2O3, In2O3, TiO2, ZnO)	1
150	Argon	1
151	Nitrozen	1
152	Oxyzen	1
153	Laser flash-lamp and deionization cartridge	1
154	AMC for Aethalometer AE 33	1

S.No	Instrument Name	QTY
155	AMC Wide Range Aerosol Spectrometer (GRIMM)	1
156	65 AH, 12V Batteries for UPS	20
157	Filter Tickets for Micro Aethalometer AE 51	1
158	UPS Battery 12V 7AH	2 Set
159	QMA filter	3 pkts of 82.6 mm
160	QMA filter	2 pkts of 8"x10"
161	QMA filter	2 pkts of 47 mm
162	GFA filter	2 pkts of 37mm
163	Cryo boxes	12 Packs
164	Glass storage bottles	40x250 ml
165	Round bottom flask	10 nos.x100ml
166	Impinger	10 nos. X35ml
167	Funnel	20 nos. x 50mm
168	Vials	12 x 5ml
169	Micro syringe	500µL and 250µL
170	Concentrator column	4 Nos.
171	Acetone AR Acetonitrile	(4x2.5 L)
172	Standards (PAHs, n-Alkanes etc.)	1
173	Potato dextrose agar media (500 g), EMB media (500g), TSA media (500g),	500
	Chlorampheuirenicol antibiotic (5g), Cycloheximide(1g)	500 g
174	Anderson Sampler/ repairing	1
175	Repair and testing of PM2.5 samplers	1
176	UPS Batteries	30
177	SMPS(Workstation)	1
178	Weedicide liquid	6 L
179	Repair/upgradation	2
180	12V/75AH maintenance free batteries for UPS	30
181	Desktop Computer with Windows 10 pro 32 bit	1
182	50 GHz Microwave Power Sensor	1
183	Temperature Controlled Soldering iron station	1
184	Magnetic stirrer with hot plate	2
185	Multifunction colour printer	1
186	True RMS Digital Multimeter	1
187	Miniature Rubidium Atomic Clock	1
188	Temperature and humidity meter with sensors	Set
189	2.4mm Power Splitter (Port 1(M) & Port 2&3 (F))	1
190	Soldering station with accessories	Set
191	Regulated power supplies	4
192	Work Station 256 GB RAM	1
193	For daily & routine lab work related to calibration & testing:	a) 01
	(a)red thermometer,	b) 01
	(b) temp. controlled soldering iron,	c) 01
	(c) Hot plate with magnetic sterrir,	d) 01
	(d) electronic balance,	e) 01
194	Narda HP-01 (H-field probe) (With cal-certificate)	1
195	Nanovoltmeter 2182A	2
196	Handheld spectrum analyzer	1
		1

S.No	Instrument Name	QTY
197	Thermal Transfer Standard	1
198	Service of Epstein Frame measurement Setup	1
199	Developers Kit for Miniature Rubidium atomic Clock	1
200	AMC of 2 KVA online 1+1 5 KVA(1)	1
201	Connector for R & S TS EMF Probe	1
202	Tool Kit set	1
203	900 N/225 lbs Linear Actuator (Total 04 Nos.)	Set
204	Amazon echo (Total 2 Nos.)	4
205	Google home (Total 2 Nos.)	2
206	UPS Batteries	8
207	Mounting brackets for Linear actuator(Total 04 nos.), Gyroscope (ring Type) 04	-
	nos Raspberry Module (microcontroller, screen and keyboard) 02 nos.	Set
208	RF Cables	4
209	Connectors	22
210	BNC Tee	2
211	BNC Connectors with Cable	2
212	3 meter Flexible Coaxial Cables SMA type	1
213	High Torque Encoder DC (a) Servo Motor 10RPM (with UART/I2C/PPM Drive	
-	and Industrial Power Supply 12V) (Total 06 Nos.), (b) Bread board	
	rectangular(Total 05 Nos.) (C) IIC/I2C Serial Interface Adapter Module(Total	
	05 Nos.), (D) Arduino Uno R3 + Arduino Motor Shield based Robot Control	Set
	Board(Total 02 Nos.), (E) Arduino Due R3 ARM Cortex-M3 Control board(Total	
	05 Nos.), (F) L293D based Arduino Motor Shield (Total 10 Nos.),	
214	LC Female to Female adapter (Pasternack)	2
215	Adapter 2.4mm(F) to 2.4mm (F) High Metrology grade	1
216	Adapter 2.4mm(M) to 2.4mm (M) High Metrology grade	1
217	GPIB cable and connectors	2
218	10 dB attenuator in 2.4mm	2
219	Chemicals:(a) Acetone (b) Propanol(c) DGBE(d) Propane 1,2, di-ol and	Set
	Miscellaneous (manquein, powders, mixers, etc.)	500
220	A3 power pack PCA card of Thermal Transfer standard(792A) and Fluke	Set
221	Thermal Transfer standard IC CMOS hex Inverter component General consumables (wires, low thermal cables, microwave components,	
221	ferrite cores, gold pins for contact etc.	Set
222	2.4mm Broadband Termination Set	1
223	Right angled Adapters (04), Batteries for Zener DC reference standards,	C.+
	Batteries for UPS	Set
224	Exchange aperature drives	1
225	R motor assembly,	1
226	Helical coupling	2
227	Bracket f motor R axis comm 291	1
228	DC motor controller,	1
229	f/motor adaptor cable	1
230	Steerer box power supply (ion beam)	1
231	High vacuum teflon grease	1
232	TMP controller including installation charges	1
233	AC for for UHV System Lab	3
234	Clean Room Furniture	1 set

S.No	Instrument Name	QTY
235	AC & PC for solar park	1 AC + 1 PC
236	R UPS Power Supply	1
237	DC power supply	1
238	Power supply & Heater Assembly for PID set-up	1
239	Heavy Duty Mixer	1
240	Dles moulds for paver, road divider etc.	As Per Requirement
241	Environmental chamber	1
242	Power supply for spectral response set-up	1
243	Laser jet Printer	1
244	Repair of Air Conditioning System in SECRC like AHU Condensor, Heater, Batteries, Dehumidifier, Package Unit, Contractor, Condensing leakage units etc.	As Per Require for Clean Room Facility
245	DI Water repair	1
246	DI Water repair in SECRC & Si PV	!+1
247	Solatron repair	1
248	N2 Plant repair	1
249	N2 gas 5n purity	30
250	Ar Gas	4
251	O2 Gas	2
252	N2 bank 12Cly	2
253	IR Transmission NIST 1921b	1
254	N2 bank 16 Cly	1
255	Thickness calibration	1
256	Soap and other cleaning items	As Per Requirements
257	UHV STM Power supply	1
258	Alcanox detergent for cleaning of Laser tubings	2
259	Tantalum Foil, Tantalum thin Foil 0.0127mm minimum 50mmx2000mm	3
260	Vacuum sealant: silicone based liquid resin system developed primarily for sealing leaks in high and UHV systems Vacseal Vacuum Leak Sealant, With Brush, Original Formula Clear, 2 fl.oz.(59ml	1
261	Electrical feedthrough: DN35CF-DN40CF (2.75" OD) 2.75 inch CF electrical feedthrough 20-30 A current 2 pin 25A	2
262	Nude Guage filaments W or Ir	5
263	patch cable for USB 4000 spectrometer, 200 um Premium Fiber, VIS/NIR, 2 m	2
264	reapair of Hose pipe, thermal evaporation, and UPS	1
265	Glove box repair	1
266	IR heater	1
267	replacement of Battery for UPS	24
268	Battery for UPS and repair 40kvA	60
269	repair laser scriber	1
209	Hydroflouric acid	12 bottles
270	КОН	03 bottle
	Isopropyl Alcohol	50
272		
273	AgNO3	01 bottle
274	Toluene	5
275	Ethanol	25

S.No	Instrument Name	QTY
276	Acetone	60
277	DCM	2 bottle
278	Sulpfuric acid	10
279	Methanol	50 liter
280	Spin-on p-type dopant	100 ml equivalent
281	Spin-on n-type dopant	100 ml equivalent
282	solar modules	20 Nos.
283	Power Board repairing of Shimadzu Instrument (UV-1800)	1 No.
284	Polymer Master Batch AM 3744 UVNOX	30 Kg
285	Metals for electrode Deposition (Ag and Al)	50 Kg
286	High Density PP Flyash Tiles	400
287	GPC Standard	2 Kits + Accessories
288	Repair/upgradation of equipments (TGA/DSC, Thernal Evaporator)	1 each
289	Chemical distillation plant	1
290	Gloves	100 Packets
291	Tissue rolls	300 Rolls
292	Ceramic wool	5 Packets
293	ITO/FTO (10"x10")	5 Sheets
294	1 KVA UPS	2
295	Nanostepper for translation	1
296	High temperature tube Furnace	1
297	Dewar Flask for HRTEM	1
298	Multimeter for HRTEM room	1
299	55 lit capacity liquid nitrogen container for HRTEM and SEM	1
300	Ultrasonic cleaning bath	1
301	Ball mill	1
302	Dedicated Box Furnace	1
303	Hot Plate	1
304	computer UPS	1
305	temperature controller	2
306	Dimmerstat	1
307	Pelletizer	1
308	Magnetic stirrer ,Hot Oven	1 for each
309	Shock damage threshold	1
310	constant temperature bath	1
311	Vaccume Cleaner	1
312	Dehumidifier	1
313	Digital Hygrometer	2
314	20kVA UPS for HRXRD system	1
315	2theta-theta motors for HRXRD gonimeter	As Per Requirements
316	Air Conditioners	As Per Requirements
317	temperature and humidity meters	As Per Requirements
318	Magnetic hot plate	As Per Requirements
319	Hydrothermal cells	2
320	Bomb calorimeter	1
321	Balances	2
322	Hot plate with magnetic stirrer 2 lre capacity	2

S.No	Instrument Name	QTY
323	Hot plate	2
324	constant temperature bath	1
325	temperature and humidity monitoring equipments	10
326	UPS 10KVA	1
327	UPS 1KVA	1
328	pH meter	1
329	Gas regulator	3
330	Thermohygrometer	2
331	complete vacuum unit	1
332	weighing machine	1
333	Substrates for thin films for SI traceability of QMS (EPR, MOKE instruments)	45
334	Chemicals	As Per Requirements
335	HRTEM AMC (FEI)	1
336	Repairing of small chiller attached with HRTEM	1
337	Quartz Tube	As Per Requirements
338	Tissue Paper and Gloves	As Per Requirements
339	Twizzers and culture tube	As Per Requirements
340	Hard disk plastic box,HP printer cartridge	As Per Requirements
341	Lab coat, safety goggles, beaker	As Per Requirements
342	Spatula, magneticc beads, silicon tubing	As Per Requirements
343	Microtip, dessicator, shoe cover	As Per Requirements
344	TEM grid	As Per Requirements
345	AMC of SEM and EDS	1
346	Stage control PCB, spare part for SEM	1
347	Stationary Items	As Per Requirements
348	Computer items	As Per Requirements
349	printer Cartridge	2
350	Repair of high temperature furnace	1
351	Repair of maintence of AHU	1
352	Repair of turbomolecular pump	1
353	Chemicals	As Per Requirements
354	single crystal wafer substrate	As Per Requirements
355	AMC charges for HRXRD and SIMS	1 for each
555	Cartridge SMF UPS batteries chemicals Nitrogen cylinder antivirus ,external	
356	hard disk , pendrives, mouse etc.	As per requirment
357	Repairing of IC and centrifuge	1
358	AMC of ICP-OES AAS And IC	1
	Chemicals, pippete, multielemental standard solution, crucible, quartz tub,	
359	staionary,dessicator	As Per Requirements
360	Millipore element free water purification system cartridge	As Per Requirements
361	Glassware	As Per Requirements
362	printer cartridge	As Per Requirements
363	AFM repair	1
364	Glove box repair	1
365	tissue roll flask etc	160
366	Chemicals(substrate)	As Per Requirements

S.No	Instrument Name	QTY
367	Stationary(ring binde4r files protactor sheet file storage stand bond paper)	As Dar Daguiramants
200		As Per Requirements
368	Micropipettes tips nitrile gloves	As Per Requirements
369	AFM tips	As Per Requirements
370	Quartz and alumina items	As Per Requirements
371	3-way Ball valve ,DN25 ISO-KF, Manual, Stainless steel	As Per Requirements
372	oxygen (99.99 and 99.999%), nitrogen argon gas purity 99.99 refilling/cylinders	As Per Requirements
373	Other unclassified Lab consumables chemicals, micropepettes sample boxes, Nitril gloves, Spatula, High temperature Gloves, Masks, Safety glass, Welding glasses, Glass cutting tool, Tissue paper, Weighting Paper, Tweezers, First Aid Box, and stationary item- belongs to P4 category etc.) & Other Equipment repairchemicals, micropepettes sample boxes, Nitril gloves, Spatula, High temperature Gloves, Masks, Safety glass, Welding glasses, Glass cutting tool, Tissue paper, Weighting Paper, Tweezers, First Aid Box, and stationary item- belongs to P4 category etc.) & Other Equipment repair	As Per Requirements
374	Oxygen gas cylinder, oxygen gas purity 99.9995%	As Per Requirements
375	Single Crystal wafer for quantum nano photonics applications	As Per Requirements
376	Spares for LN2 plant	As Per Requirements
377	Spares for air compressor of LN2 plant	As Per Requirements
378	Helium Gas 5N Grade	800 m3
379	AC for chemical Lab	1
380	Renovation of tin shed	1
381	PC	3
382	Laser jet printer with scanner	1
383	Power supply	1
384	Work Station	1
385	IR transmision NIST 1921b	1
386	Horn Antennas (1 GHz - 18 GHz), for covering specified frequency band	05 Pairs (Total 10)

^{*}The publication of this list shall not be construed as initiation of a procurement process and cast any obligation on CSIR-NPL to issue the bidding document or confer any right on prospective bidders (Rule 144(x) of GFR 2017).

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